

STATE OF MISSOURI

PERMIT BOOK



DEPARTMENT OF NATURAL RESOURCES

MISSOURI AIR CONSERVATION COMMISSION

PERMIT TO CONSTRUCT

Under the authority of RSMo 643 and the Federal Clean Air Act the applicant is authorized to construct the air contaminant source(s) described below, in accordance with the laws, rules and conditions as set forth herein.

Permit Number: 022011-006 Project Number: 2010-04-065

Installation Number: 161-0063

Parent Company: Prock Operations

Parent Company Address: P.O. Box 1892, Rolla, MO 65402

Installation Name: For Your Convenience

Installation Address: 321 E. Hardy St., St. James, MO 65559

Location Information: Phelps County, S20, T38N, R6W

Application for Authority to Construct was made for:
Commercial cabinetry manufacturing installation. This review was conducted in accordance with Section (5), Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*.

-
- Standard Conditions (on reverse) are applicable to this permit.
- Standard Conditions (on reverse) and Special Conditions are applicable to this permit.

FEB 17 2011

EFFECTIVE DATE


DIRECTOR OR DESIGNEE
DEPARTMENT OF NATURAL RESOURCES

STANDARD CONDITIONS:

Permission to construct may be revoked if you fail to begin construction or modification within two years from the effective date of this permit. Permittee should notify the Air Pollution Control Program if construction or modification is not started within two years after the effective date of this permit, or if construction or modification is suspended for one year or more.

You will be in violation of 10 CSR 10-6.060 if you fail to adhere to the specifications and conditions listed in your application, this permit and the project review. In the event that there is a discrepancy between the permit application and this permit, the conditions of this permit shall take precedence. Specifically, all air contaminant control devices shall be operated and maintained as specified in the application, associated plans and specifications.

You must notify the departments' Air Pollution Control Program of the anticipated date of start up of this (these) air contaminant source(s). The information must be made available within 30 days of actual startup. Also, you must notify the Department of Natural Resources Regional office responsible for the area within which you are located within 15 days after the actual start up of this (these) air contaminant source(s).

A copy of this permit and permit review shall be kept at the installation address and shall be made available to Department of Natural Resources' personnel upon request.

You may appeal this permit or any of the listed special conditions to the Administrative Hearing Commission (AHC), P.O. Box 1557, Jefferson City, MO 65102, as provided in RSMo 643.075.6 and 621.250.3. If you choose to appeal, you must file a petition with the AHC within 30 days after the date this decision was mailed or the date it was delivered, whichever date was earlier. If any such petition is sent by registered mail or certified mail, it will be deemed filed on the date it is mailed. If it is sent by any method other than registered mail or certified mail, it will be deemed filed on the date it is received by the AHC.

If you choose not to appeal, this certificate, the project review and your application and associated correspondence constitutes your permit to construct. The permit allows you to construct and operate your air contaminant source(s), but in no way relieves you of your obligation to comply with all applicable provisions of the Missouri Air Conservation Law, regulations of the Missouri Department of Natural Resources and other applicable federal, state and local laws and ordinances.

The Air Pollution Control Program invites your questions regarding this air pollution permit. Please contact the Construction Permit Unit at (573) 751-4817. If you prefer to write, please address your correspondence to the Missouri Department of Natural Resources, Air Pollution Control Program, P.O. Box 176, Jefferson City, MO 65102-0176, attention: Construction Permit Unit.

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SPECIAL CONDITIONS:

The permittee is authorized to construct and operate subject to the following special conditions:

The special conditions listed in this permit were included based on the authority granted the Missouri Air Pollution Control Program by the Missouri Air Conservation Law (specifically 643.075) and by the Missouri Rules listed in Title 10, Division 10 of the Code of State Regulations (specifically 10 CSR 10-6.060). For specific details regarding conditions, see 10 CSR 10-6.060 paragraph (12)(A)10. "Conditions required by permitting authority."

For Your Convenience
Phelps County, S20, T38N, R6W

1. Control Device Requirement-Cyclone
 - A. For Your Convenience shall control emissions from the two CNC routers (EU-01) using a cyclone as specified in the permit application.
 - B. The cyclone shall be operated and maintained in accordance with the manufacturer's specifications.
 - C. For Your Convenience shall maintain an operating and maintenance log for the cyclone which shall include the following:
 - 1.) Incidents of malfunction, with impact on emissions, duration of event, probable cause, and corrective actions; and
 - 2.) Maintenance activities, with inspection schedule, repair actions, and replacements, etc.
2. Control Device Requirement-Filter
 - A. For Your Convenience shall control emissions from the paint booth (EU-06) using a filtration system as specified in the permit application.
 - B. The filter shall be operated and maintained in accordance with the manufacturer's specifications.
 - C. Replacement filters shall be kept on hand at all times. The filters shall be made of fibers appropriate for operating conditions expected to occur (i.e. temperature limits, acidic and alkali resistance, and abrasion resistance).
 - D. For Your Convenience shall maintain an operating and maintenance log for the filtration system which shall include the following:
 - 1.) Incidents of malfunction, with impact on emissions, duration of event, probable cause, and corrective actions; and
 - 2.) Maintenance activities, with inspection schedule, repair actions, and replacements, etc.

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SPECIAL CONDITIONS:

The permittee is authorized to construct and operate subject to the following special conditions:

3. Use of Alternative Coating in the Paint Booth (EU-06)
 - A. When considering using an alternative coating in the paint booth that is different than a material listed in the Application for Authority to Construct, For Your Convenience shall calculate the potential emissions of all individual HAP in the alternative material.
 - B. For Your Convenience shall seek approval from the Air Pollution Control Program before use of the alternative material if the potential individual HAP emissions for the alternative material are equal to or greater than the SMAL for any chemical listed in Appendix A.
 - C. Attachment A or equivalent forms, such as electronic forms, approved by the Air Pollution Control Program shall be used to show compliance with Special Condition 3.A.
4. Operational Requirement
For Your Convenience shall keep solvents and cleaning solutions in sealed containers whenever the materials are not in use. For Your Convenience shall provide and maintain suitable, easily read, permanent markings on all solvent and cleaning solution containers used with this equipment.
5. Record Keeping Requirement
For Your Convenience shall maintain all records required by this permit for not less than five (5) years and shall make them available immediately to any Missouri Department of Natural Resources' personnel upon request. These records shall include Material Safety Data Sheets (MSDS) for all materials used.

Mr. Mark Barnes
Environmental Health and Safety Manager
For Your Convenience
321 E. Hardy St.
St. James, MO 65559

RE: New Source Review Permit - Project Number: 2010-04-065
Installation ID: 161-0063

Dear Mr. Barnes:

Enclosed with this letter is your permit to construct. Please study it carefully. Also, note the special conditions on the accompanying pages. The document entitled, "Application for Authority to Construct," is part of the permit and should be kept with this permit in your files. Operation in accordance with these conditions and your new source review permit application is necessary for continued compliance. The reverse side of your permit certificate has important information concerning standard permit conditions and your rights and obligations under the laws and regulations of the State of Missouri.

For Your Convenience is a custom commercial cabinetry manufacturer located in St. James. Processes include cutting and routing of wood, composite wood, and rigid foam, as well as surface coating, laminate application, and gluing. Snowman Coolers is an adjacent facility that manufactures large coolers including walk-in style for convenience stores. Processes include rigid foam gluing and panel assembly. For Your Convenience cuts rigid foam and surface coats cooler walls for Snowman Coolers. Prock Operations is the parent company of both For Your Convenience and Snowman Coolers. Emission units at the combined installation are listed in Table 1.

Table 1: Emission Units

Designation	Description
EU-01	2 CNC composite wood and rigid foam routers, controlled by one cyclone
EU-02	Laminate press using resin impregnated paper
EU-03	Laminate press heater
EU-04	Edge gluing using thermoplastic adhesive
EU-05	Solid surface assembly
EU-06	Paint booth
EU-07	Rigid foam gluing
EU-08	Paint booth heater

The computer numerically controlled (CNC) routers (EU-01) process sheets of composite wood and rigid polystyrene foam. According the applicant, 2,200 square feet of material can be processed per hour, per router, typical to the amount of routing performed for each sheet. Using known material densities and assuming a full depth cut, the maximum hourly design rate (MHDR) of removed material from the two

routers is 4.08 tons. Using the emission factor of 0.2 pounds of particulate matter less than ten microns in aerodynamic diameter (PM₁₀) per ton of wood sawed (SCC 3-07-008-02), 8,760 hours of operation per year, an assumed capture and control efficiency of 50 percent each, the resulting PM₁₀ emissions are 2.68 tons per year. The control device is a cyclone, assumed medium efficiency, with two intakes – one per router head.

Four feet by eight feet sheets of laminate are bonded to panels using the laminate press (EU-02). The laminate is coated on one side by a resin impregnated paper that contains 0.06 percent by weight formaldehyde. According to the applicant, up to 2,000 square feet of laminate can be applied in one hour. Using the known amount of resin per square feet of laminate, the weight percent of formaldehyde, and assuming all formaldehyde as emitted, the potential emissions are 0.11 tons per year. Emissions are uncontrolled. The laminate press heater (EU-03) is rated at 300,000 British thermal units per hour natural gas input. Potential emissions from the heater were calculated using the EPA document AP-42, *Compilation of Air Pollutant Emission Factors*, Fifth Edition, Section 1.4 “Natural Gas Combustion” July 1998.

Trim or laminate is bonded to panel edges (EU-04) using Jowat brand thermoplastic adhesive that is similar to hot glue. The process MHDR is estimated from actual usage, 0.35 pounds per hour. The adhesive contains volatile organic compounds (VOC) and the hazardous air pollutant (HAP) vinyl acetate (CAS 108-05-4), but in ten parts per million or 0.001 percent concentration. All VOC and HAP were considered emitted.

Solid surface assembly (EU-05) takes place using Wilsonart 8215 adhesive. MHDR was based upon actual usage, 0.27 pounds per hour. The adhesive contains low amounts of VOC and the HAP methyl methacrylate (CAS 80-62-6), up to sixty percent by weight. Potential emissions were calculated assuming all VOC and HAP emitted.

In the paint booth (EU-06), substrates are hand wiped with Sunnyside Allpro Lacquer Thinner 457A before being primed with Benjamin Moore Fresh Start All-Purpose 100% Acrylic Primer 023 and top-coated with Benjamin Moore Moorglo Soft Gloss Fortified Acrylic House Paint W096. Coatings are applied with a high volume low pressure (HVLP) spray gun, with assumed sixty percent solids transfer efficiency. Due to the various materials being coated, the most conservative method to determine MHDR was to use the spray gun’s flow rate of 0.36 liters per minute with a 1.5 millimeter diameter tip. All VOC were considered emitted. All solids were evaluated as PM₁₀, subject to 100 percent capture and assumed 95 percent control for a single stage panel filter. Conservatively, preparation, priming, and top-coating was each evaluated at 8,760 hours per year.

Currently, solvent based coatings and coating containing HAPs are not used. If solvent based coatings or coatings containing HAPs are planned to be used, then For Your Convenience shall recalculate the potential to emit for the paint booth, using these coatings. If the potential VOC or HAP emissions meet or exceed the respective de minimis level or screening model action level (SMAL), then For Your Convenience shall contact the Air Pollution Control Program before using the coating. Appendix A lists HAPs and their SMAL.

Rigid sheets of polystyrene foam are bonded to cooler walls (EU-07) at Snowman Coolers. The adhesive is water activated MOR-Ad M-640 that contains diphenylmethane diisocyanate (MDI) and polymeric MDI

(CAS 101-68-8 and CAS 9016-87-9 respectively) in a polyurethane resin base. MDI is a HAP and polymeric MDI can contain 55.5 percent MDI by weight. However, according to Dow Chemical, the adhesive does not contain volatiles. Therefore, no emissions were calculated from this process.

Lastly, the paint booth is equipped with a natural gas fueled heater, rated at 300,000 Btu per hour. Potential emissions were calculated using AP-42, *Compilation of Air Pollutant Emission Factors*, Fifth Edition, Section 1.4 “Natural Gas Combustion” July 1998.

Table 2 summarizes the potential emissions of the installation. The installation does not have any construction or operating permits. Controlled Potential Emissions of the Installation include emissions reductions from the use of control devices.

Table 2: Emissions Summary (tons per year)

Pollutant	De minimis Level	Uncontrolled Potential Emissions of the Installation	Controlled Potential Emissions of the Installation
PM ₁₀	15.0	208.36	12.94
SO _x	40.0	1.55E-03	1.55E-03
NO _x	40.0	2.58E-01	2.58E-01
VOC	40.0	39.56	39.56
CO	100.0	2.16E-01	2.16E-01
combined HAP	25.0	8.14	8.14
formaldehyde	¹ 2.0	0.11	0.11
vinyl acetate	¹ 1.0	1.52E-05	1.52E-05
methyl methacrylate	10.0	0.72	0.72
methanol	10.0	3.24	3.24
toluene	10.0	4.07	4.07

¹ Screening Model Action Level (SMAL)

Permit need is based upon direction from EPA Region VII stating that since July 1, 2009 when determining the potential to emit, only emissions reductions from inherent control devices can be considered towards construction permit applicability. The router cyclone and paint booth filter are not inherent control devices. Without these devices, PM₁₀ emissions exceed the de minimis level, requiring a permit. Since a permit is required, then emissions reductions can be included for the controls.

None of the currently promulgated Maximum Achievable Control Technology (MACT) regulations apply to the installation. MACT Subparts M MMM *National Emission Standard for Hazardous Air Pollutants for Surface Coating of Miscellaneous Metal Parts and Products*, Q Q Q Q *National Emission Standard for Hazardous Air Pollutants: Surface Coating of Wood Building Products*, and R R R R *National Emission Standard for Hazardous Air Pollutants: Surface Coating of Metal Furniture* do not apply as the

Mr. Mark Barnes
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installation is not a major HAP source. MACT Subparts MMMMM *National Emission Standard for Hazardous Air Pollutants: Flexible Polyurethane Foam Fabrication Operations* and OOOOOO *National Emission Standards for Hazardous Air Pollutants for Flexible Polyurethane Foam Production and Fabrication Area Sources* do not apply as the installation uses rigid foam, not flexible. No operating permit is required for this installation.

You are still obligated to meet all applicable air pollution control rules, Department of Natural Resources' rules, or any other applicable federal, state, or local agency regulations. Specifically, you should avoid violating 10 CSR 10-6.045 *Open Burning Requirements*, 10 CSR 10-3.090 *Restriction of Emission of Odors*, 10 CSR 10-6.170 *Restriction of Particulate Matter to the Ambient Air Beyond the Premises of Origin*, and 10 CSR 10-6.400 *Restriction of Emission of Particulate Matter From Industrial Processes*. 10 CSR 10-6.400 applies to the routers.

A copy of this letter should be kept with the unit and be made available to Department of Natural Resources' personnel upon verbal request. If you have any questions regarding this determination, please contact David Little at the Department's Air Pollution Control Program, P.O. Box 176, Jefferson City, MO 65102 or by telephone at (573) 751-4817. Thank you for your time and attention to this matter.

Sincerely,

AIR POLLUTION CONTROL PROGRAM

Kendall B. Hale
Permits Section Chief

KBH:dll

c: Southeast Regional Office
PAMS File: 2010-04-065

Permit Number:

MISSOURI DEPARTMENT OF NATURAL RESOURCES
FOLDER TRANSMITTAL ROUTING SHEET

Document #:
Division Log #:
Program Log #:

DEADLINE: Nov 13, 2010

Penalty for Missing Deadline: \$

For Your Convenience

2010-04-065

Originator: David Little

Telephone: 6-3835

Date: 2/23/2011

Typist: Linda

File Name: P:\APCP\Permits\Users\David Little\controls permit\Prock Operations\2010-04-065.doc

FOR SIGNATURE APPROVAL OF:

DNR Director DNR Deputy Director Division Director Division Deputy Director X Other: James L. Kavanaugh

PROGRAM APPROVAL: Approved by: _____ Program: APCP Date: _____

Other Program Approval (Section/Unit): _____ Date: _____

Comments:

ROUTE TO:

DIVISION DIRECTOR APPROVAL: _____ Date: _____

Comments:

FINANCIAL REVIEW – DIVISION OF ADMINSTRATIVE SUPPORT:

DAS Director: _____ Date: _____

Fee Worksheet Received By: _____ Date: _____

Accounting: _____ Date: _____

Budget: _____ Date: _____

General Services: _____ Date: _____

Internal Audit: _____ Date: _____

Purchasing: _____ Date: _____

Comments:

LEGAL REVIEW:

General Counsel: _____ Date: _____

AGO: _____ Date: _____

Comments:

DEPARTMENT DIRECTOR APPROVAL: _____ Date: _____

Comments:

NOTARIZATION NEEDED

INITIALS/DATE